JULY **VOLUME 63, NUMBER 1** 1987 CONTENTS **General Papers** V. M. Tsmots, V. I. Shakhovtsov, 1 Magnetism of plastically deformed Ge and Si crystals V. L. Shindich, L. I. Shpinar, M. I. Shubak, V. S. Stym and I. I. Yaskovets I. Bâldea 5 Interplay between disorder and $2k_F$ regularity of the impurity distribution in the Peierls-CDW state F. J. Bryant, J. M. Majid, C. G. Scott and 9 The interpretation of non-linear Schottky barrier C⁻²-V D. Shaw characteristics P. Doussineau, A. Levelut and W. Schön 13 Acoustic susceptibility of spin-glasses S. Girault, A. H. Moudden, G. Collin, 17 On the distortion wave vector in the blue bronzes J. P. Pouget and R. Comès M. A. Manheimer, S. B. Liao, S. M. Bhagat 21 Determination of coordination number by magnetic resonance and K. Moorjani in reentrant ferromagnets M. Tavakoli and J. Hirsch 25 Absorption current and súrface leakage in polypropylene H. J. Donnerberg and O. F. Schirmer 29 The paramagnetic properties of CO2+ in LiNbO3 and LiTaO3 Superconductors and Superconductivity M. François, K. Yvon, P. Fischer and 35 Structural phase transition at 150K in the high-temperature M. Decroux superconductor La_{1.85}Sr_{0.15}CuO₄ T. Ekino, J. Akimitsu, Y. Matsuda and superconductivity of 41 Electron tunneling study on M. Sato (Li_{0.65}Na_{0.35})_{0.9}Mo₆O₁₇ General Papers (contd.) Shiow-Ming Hsieh and R. Colella 47 Dimensional effects of Debye-Waller factors in layered crystals H. Bellakhder, M. Averous, J. Calas, C. Fau, 51 Optical properties of semimagnetic compound Pb_{1-x}Gd_xTe A. Bruno and M. Cadene with x = 0.01 and 0.025 K. M. Mayer, R. Gross, J. Parisi, J. Peinke 55 Spatially resolved observation of current filament dynamics in and R. P. Huebener semiconductors

- 61 On the variation of Born repulsive parameter in ionic crystals P. Mohazzabi 65 Magnetic ordering in MnSe₂ T. Chattopadhyay, J. Rossat-Mignod and H. Fjellvåg 69 Vibrational properties of the Ga⁰ and In⁰ centers of the T1⁰ (1) W. Joosen, C. Sierens and D. Schoemaker structure as studied by resonant Raman scattering i Instructions and examples for authors on the preparation of camera-ready manuscripts for Solid State Communications 1987 **VOLUME 63, NUMBER 2** JULY CONTENTS **General Papers** P. Basmaji, J. C. Portal, R. L. Aulombard and 73 Resonant DX centers in highly doped Sn - Ga_{1-x}Al_xAs under hydrostatic pressure in a magnetic field P. Gibart J. Oleszkiewicz, A. Kisiel and A. Rodzik 77 A modification of CdMnTe reflectivity spectra by Mn density of states 81 A second isoelectronic multiexciton center in annealed A. G. Steele, M. L. W. Thewalt and S. P. Watkins Czochralski silicon 85 Thiophene on Si(1 1 1)2 \times 1: synchrotron radiation study of a M. N. Piancastelli, R. Zanoni, M. K. Kelly, desulfurization process D. G. Kilday, Y. Chang, J. T. McKinley, G. Margaritondo, P. Perfetti, C. Quaresima and M. Capozi 91 Atomic-scale structure of alkali halide solid solutions M. Peressi and A. Baldereschi 97 Insulator-to-metal transition in polyaniline J. M. Ginder, A. F. Richter, A. G. MacDiarmid and A. J. Epstein 103 Electronic structure and photo-induced structure change of H. Tanaka, M. Inoue and E. Hanamura polydiacetylene crystal 109 Femtosecond collision times of hot electrons in GaAs Y. Huang and P. Y. Yu determined by picosecond time-resolved light scattering K. Strössner, M. Cardona and W. J. Choyke 113 High pressure X-ray investigations on 3C-SiC D. Labrie, I. J. Booth, S. P. Watkins and 115 Far-infrared absorption and near-infrared excitation M. L. W. Thewalt spectroscopy of isoelectronic bound excitons in Si:Be+C S. B. Liao, S. M. Bhagat, M. A. Manheimer 119 Anomalous frequency dependence of spin relaxation in the and M. J. Park concentrated spin glass, a - (Fe_{0.16}Ni_{0.84})₇₅P₁₆B₆Al₃ 123 Quantum limit cyclotron resonance in p-GaAs H. Kobori, T. Ohyama and E. Otsuka Superconductors and Superconductivity
 - J. Marcus, C. Escribe-Filippini, C. Schlenker, R. Buder, J. Devenyi and P. L. Reydet
 - L. Mihály, Gy. Hutiray, S. Pekker, G. Kriza, M. Prester, L. Forró, Nevenka Brnicevic and A. Hamzic
- 129 Magnetic and transport properties of some Ln-Ba-Cu-O(Ln = Yb, Tm, Sm) superconducting oxides
- 133 Structure and electronic properties of La-Sr-Cu oxide ceramics

D. A. Esparza, C. A. D'Ovidio, J. Guimpel, E. Osquiguil, L. Civale, and F. de la Cruz	137	The granular nature of bulk superconductivity at 40K in $La_{1.8}Sr_{0.2}CuO_4$
A. Bezinge, K. Yvon, J. Muller, W. Lengauer and P. Ettmayer	141	High-pressure high-temperature experiments on d-MoN
W. J. Gallagher, R. L. Sandstrom, T. R. Dinger, T. M. Shaw and D. A. Chance	147	Identification and preparation of single phase 90 K oxide superconductor and structural determination by lattice imaging
Zhao Guomeng, Duan Zhanguo, Chao Ning and Li Hongcheng	151	Superconductivity mechanism of high T_c oxides
J. T. Belash, O. V. Zharikov and A. V. Pal'nichenko	153	On the superconductivity of high-pressure phases in a potassium graphite intercalation compound C ₈ K
General Papers (contd.)		
E. De Salvo, A. Quattropani and R. Girlanda	159	Electronic interband Raman scattering in semiconductors in a static magnetic field. Non-local effects
L. Koudelka, N. Lustig and J. S. Lannin	163	Raman scattering of Ni and Cr amorphous disilicides
N. Ahmad and W. A. Phillips	167	Thermal conductivity of ice and ice clathrate
Y. Ueda, M. Marushita, H. Negishi, M. Sasaki and M. Inoue	173	Point-contact spectroscopy of layered TiS ₂ crystal
M. M. Abd-Elmeguid, B. Schleede H. Micklitz, T. T. Palstra, G. J. Nieuwenhuys and K. H. J. Buschow	177	The stability of the ferromagnetic state in La(Fe $_{0.86}$ Al $_{0.14}$) $_{13}$ under high pressure
J. Weszka, A. Burian, A. Zwick and M. Renucci	181	On Raman scattering in Cd-As disordered thin films
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
JULY VO	LUM	E 63, NUMBER 3 1987
	C	ONTENTS
General Papers G. S. Patrin, G. A. Petrakovskii and V. N. Vasiliev	183	A photomagnetic effect in the α-Fe ₂ O ₃ : Co, Si single crystal
M. M. Korsukova, T. Lundström, LE. Tergenius and V. N. Gurin	187	The X-ray Debye temperature of LaB ₆
A. C. Nunes	191	Mean-boson field theory for heavy fermion uranium compounds
Superconductors and Superconductivity Zi-wen Dong, Hong-cheng Li, Rui-lan Wang and Dong Li	197	7 High T_c superconductivity in the $Ba_x - Y_{1-x} - Cu - O_{3-y}$ compound system
Masahiro Inoue, Tadashi Takemori, Kazuo Ohtaka, Ryozo Yoshizaki and Tunetaro Sakudo	201	Inter-layer Cooper pairing of two-dimensional electrons

K. I. Wysokiński	205 On the T_c degradation in dirty transition metal superconductors
General Papers (contd.)	
J. M. Tranquada and C. Y. Yang	211 EXAFS measurements of bond-stretching force constants in arsenic and arsenic compounds
D. Mihalache and D. Mazilu	215 Stability and instability of nonlinear guided waves in saturable media
M. Mostefa and G. Olivier	219 Effects of the density-of-states on the hopping conduction in granular systems
H. Bartholin, J. L. Baudour, C. Breandon, R. Tchapoutian, H. Cailleau and D. Perrin	223 A possible devil's staircase in TTF-chloranil at the neutral- ionic transition observed by electric conductivity measurements
S. Takeyama, N. Yamada and N. Miura	Quantum limit behavior of the magnetoresistance in Hg _{1-x-} ,Cd _x Mn,Te alloys subjected to a high pulsed magnetic field
T. M. Parrill and V. M. Bermudez	231 Surface and bulk valence band photoemission of silicon carbide
SM. Hsieh and R. Colella	237 Charge density waves and phase transitions in 1T-TaS2
P. Hawrylak	241 Surface plasmons in graphite intercalation compounds
F. Sols and R. H. Ritchie	245 The interaction between an electron and the polarization modes of a metal-insulator interface
M. Combescot and J. Bok	251 Energy relaxation of an electron-hole plasma in semiconductors
A. Santoni and J. Urban	257 Structure determination of graphitic carbon on Cu(1 1 0) by means of surface extended energy loss fine structure
	i Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
JULY	VOLUME 63, NUMBER 4 198

Superconductors and Superconductivity

H. Monien, K. Scharnberg and D. Walker

263 Resonant impurity scattering in anisotropic superconductors: effects of arbitrary phase shifts and particle-hole asymmetry

Wu Hang-sheng and Weng Zheng-yu

269 High-T_c superconductor

General Papers

C. Battistoni, G. Mattogno and S. Viticoli

273 Different coordination geometries of Co(II) ion in Co_xZn_{1-x}In₂S₄ and CoGaInS₄ layer compounds: a quantitative determination by XPS

J. R. Regnard, J. M. Greneche and R. Guillen

277 Temperature dependence of the hyperfine parameters of a natural orthopyroxene Fe_{0.87}Mg_{0.13}SiO₃

M. Yamaguchi, T. Ohta, T. Goto, T. Sakakibara and T. Katayama

285 Magnetic properties of Gd-substituted Y₂Co₇ hydrides

A. Grunwald and J. Hajdu	289	Thermoelectric effects in the quantum Hall regime
H. Fjellvåg, S. Furuseth, A. Kjekshus and T. Rakke	293	Low-temperature oxidative degradation of low-dimensional zirconium and hafnium tellurides
F. T. Lee, K. C. Lee, S. K. Lai, Y. S. Cheng and T. M. Hsu	299	Electric field enhancement near surface irregularities
P. Tenaud, A. Chamberod and F. Vanoni	303	Texture in Nd-Fe-B magnets analysed on the basis of the determination of Nd ₂ Fe ₁₄ B single crystals easy growth axis
Liu Jiarui and Zhang Qichu	307	Combined channeling study of α -LiIO ₃ crystal in an electrostatic field
T. Jaworska and A. Szytuła	311	Crystal structure and magnetic properties of pseudoternary $TbRh_{2-x}M_xSi_2(M = Ru, Ir)$ compounds
K. Terashima and I. Imai	315	Indirect absorption edge of ZrS2 and HfS2
H. Yamagata and M. Matsumura	319	NMR study of re-entrant spin-glass state in NiMn alloys
B. E. Vugmeister and V. A. Stephanovich	323	New random field theory for the concentrational phase transitions with appearance of long-range order. Application to the impurity dipole systems
V. M. Agranovich, A. M. Ratner and M. Salieva	329	Decay of excitonic gratings: effect of exciton diffusion and reabsorption of exciton fluorescence
D. E. Ramaker and F. L. Hutson	335	Experimental evidence for antiferromagnetic spin ordering of the $(1\ 1\ 1)-(2\ \times\ 1)$ surface of diamond
A. Rodriguez, J. W. Krewer and R. Feder	341	Spin-resolved photoemission from ferromagnetic Ni(1 1 0) (2 \times 2)-S: theory and comparison with experiment
E. V. Sampathkumaran, R. Vijayaraghavan, P. Sen and C. N. R. Rao	345	Ce core level X-ray photoelectron spectroscopy of CeX_2Si ($X = Fe$, Co, Ni and Cu)
J. W. Foise, C. J. O'Connor and R. C. Haushalter	349	Unusual magnetic behavior of the amorphous metallic materials M_2 SnTe ₄ where $M = \text{Co}$ and Ni
A. R. Hassan	353	Phonon-assisted two-photon transitions in semiconductors
H. Shen, P. Parayanthai, F. H. Pollak, R. N. Sacks and G. Hickman	357	Symmetry forbidden LO-phonon Raman scattering in heavily doped $<1~0~0>n$ -GaAs
T. Tsang, R. M. Fronko, H. A. Resing, X. W. Qian and S. A. Solin	361	¹ H NMR study of ternary ammonia – alkali metal – graphite intercalation compounds
	i	Vol. 63, Author Index 1-4
	v	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications

AUGUST

VOLUME 63, NUMBER 5

1987

CONTENTS

General Papers

M. P. Das, R. Kaschner, N. Nafari and P. Ziesche

367 Adhesive forces at bimetallic interfaces

T	11/	Lie	kmott
1 .	W.	Tic	KIIIOU

371 Observation of bulk Landau levels in transverse magnetotunneling in Al_xGa_{1-x}As capacitors

Superconductors and Superconductivity

R. L. Greene, H. Maletta, T. S. Plaskett, J. G. Bednorz and K. A. Müller

- I. K. Schuller, D. G. Hinks, M. A. Beno, D. W. Capone II, L. Soderholm, J.-P. Locquet, Y. Bruynseraede, C. U. Segre and K. Zhang
- G. Van Tendeloo, H. W. Zandbergen and S. Amelinckx
- L. F. Mattheiss and D. R. Hamann
- B. Y. Jin, M. R. Ma, J. Q. Zhang, S. Adenwalla, J. B. Ketterson, B. K. Sarma and B. S. Shivaram
- R. P. Messmer
- B. R. Zhao, Y. H. Shi, Y. Lu, H. S. Wang, Y. Y. Zhao and L. Li

Zhang Qi-rui, Qian Yi-tai, Chen Zu-yao, Guan Wei-yan, Zhao Yong, Xia Jian-sheng, Cao Lie-zhao, Pang Guo-qang, Zhang Han, Yu Dao-qi, He Zheng-hui, Zhang Ming-jian, Sun Shi-fang, Fang Min-hu and Zhang Tao

F. Marsiglio and J. P. Carbotte

- 379 Evidence for electron electron correlations in La₂CuO₄ and La_{2-x}Sr_xCuO₄ superconductors
- 385 Structural phase transition in YBa₂Cu₃O₇₋₆: the role of dimensionality for high temperature superconductivity
- 389 Electron diffraction and electron microscopic study of Ba - Y - Cu - O superconducting materials
- 395 Electronic structure of the high T_c superconductor Ba₂YCu₃O_{6.9}
- 401 Superconductivity of NbTi-Ge multilayers in weakly localized regime
- 405 Superconductivity as a synchronous spatial alternation of valence bonds
- 409 The effect of Sc on the superconductivity of the Ba Y Cu oxides
- Chen Chang-feng, Yin Dao-le and Han Ru-shan 411 Inter-layer coupling and its contribution to superconductivity: application to high- T_c oxides
 - 415 A new superconducting oxide Gd Ba Cu O with T_c ($\varrho =$ 0) above 92K
 - 419 Eliashberg theory and the high T_c oxides

General Papers (contd.)

M. Date

- G. Bernier, R. Gagnon, S. Jandl and J. L. Brebner
- J. M. Greneche, F. Varret, M. Leblanc and G. Ferey
- Akihiro Hirano and Taizo Masumi
- M. Chiba, T. Tsuboi, H. Hori, I. Shiozaki and 427 Anomalous magnetization of CsFeCl₃ appearing at the applied magnetic fields exceeding 33T
 - 431 Thermoreflectance study of direct and indirect excitons near the fundamental edge of GaSe
 - 435 Mössbauer study of an amorphous iron III fluoride: FeF₃, x $HF (0 \le x \le 1)$
 - 439 Cyclotron resonance of polarons in pure AgCl
 - i Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications

AUGUST

VOLUME 63, NUMBER 6

1987

CONTENTS

General Papers

- J. Henz, M. Ospelt and H. von Känel
- 445 On the growth of CoSi₂ and CoSi₂/Si heterostructures on Si(1 1 1)

R. A. de Groot, H. Gutfreund and M. Weger 451 Valence fluctuations in La2-xSrxCuO4 M. Almeida, M. G. Kanatzidis, L. M. Tonge, 457 Unusual band-filling and counterion ordering effects in a T. J. Marks, H. O. Marcy, W. J. McCarthy phthalocyanine molecular metal. Single crystal studies of and C. R. Kannewurf Ni(Pc)(ClO₄), M. H. Meynadier, R. E. Nahory and 463 Photoconductivity and photoreflectance studies of quantum-M. C. Tamargo wells and superlattices Y. Kuramoto 467 Momentum dependence of magnetic response in heavyfermion systems Jing Zhu Hu 471 A new high pressure phase of CdTe B. Frick, K. Jacobi, G. Meyer and M. Henzler 475 Lattice contraction in silver monolayers R. T. Phillips, Z. Sobiesierski, W. T. Toner, 481 Initial photoluminescence decay rates in amorphous J. R. M. Barr and A. J. Langley phosphorus R. Steiner, K. Keck and H. Wiesner 485 Tunneling resistance and magnetoresistance of Al – oxide – Al tunnel junctions 489 Electron energy loss spectroscopy of LiH with a scanning Dang-Rong Liu transmission electron microscope Superconductors and Superconductivity Zhang Qi-rui, Qian Yi-tai, Chen Zu-yao, 497 Superconducting oxide Dy - Ba - Cu - O with T_c ($\rho = 0$) Guan Wei-yan, Zhao Yong, Zhang Han, beyond 90K Cao Lie-zhao, Xia Jian-sheng, Pang Guo-qang, Zhang Ming-jian, He Zheng-hui, Yu Dao-qi, Sun Shi-fang, Zhang Tao, Fang Ming-hu, Yang Zhi-ping 499 Superconductivity in rare-earth-doped J. M. Tarascon, L. H. Greene, oxygen-defect W. R. McKinnon and G. W. Hull perovskites La2-x-yLn,SrxCuO4-2 F. García-Alvarado, E. Moran, M. Vallet, 507 A new high temperature superconductor: Ba₂SmCu₃O_{9-x} J. M. González-Calbet, M. A. Alario, M. T. Pérez-Frías, J. L. Vicent, S. Ferrer, E. García-Michel and M. C. Asensio Ji Mingrong, He Zhenghui, Wu Jianxin, 511 High-T_c superconductivities and electronic structures of some Zhang Han, Pan Guoqiang, Cheng Zhuyao, $(Ba_xY_{1-x})CuO_3$ species by X-ray photoelectron spectroscopy Qian Yitai, Zhao Yong, Hu Liping, Xia Jiansen and Zhang Qirui 515 High temperature superconductivity in rare-earth (R)-barium K. N. Yang, Y. Dalichaouch, J. M. Ferreira, B. W. Lee, J. J. Neumeier, M. S. Torikachvili, copper oxides (RBa₂)Cu₃O_{9-d} H. Zhou, M. B. Maple and R. R. Hake P. Boolchand, R. N. Enzweiler, I. Zitkovsky, 521 Local chemistry and vibrational behavior of the rare-earth in R. L. Meng, P. H. Hor, C. W. Chu and the high T_c superconductor EuBa₂Cu₃O_{7-\(\sigma\)} C. Y. Huang T. H. H. Vuong, D. C. Tsui, V. J. Goldman, 525 Far-infrared transmission spectra of high $T_c (Y_{0.6}Ba_{0.4})_2CuO_{4-y}$ P. H. Hor, R. L. Meng and C. W. Chu superconductors

531 Wide-temperature instability in high- T_c superconductors,

La_{1.85}Ba_{0.15}CuO₄

K. Fossheim, T. Laegreid, E. Sandvold,

F. Vassenden, K. A. Müller and J. G. Bednorz

Zhang Qi-rui, Cao Lie-zhao, Qian Yi-tai, Chen Zu-yao, Guan Wei-yan, Zhao Yong, Pang Guo-qang, Zhang Han, Xia Jian-sheng, Zhang Ming-Jian, Yu Dao-qi, He Zheng-hui, Sun Shi-fang, Fang Ming-hu and Zhang Tao	535	Superconductivity in Sr-Y-Cu-O system
M. L. Kulić	537	Some properties of modulated Josephson junction
General Papers (contd.)		
A. G. Breñosa, M. Moreno and F. Rodríguez	543	Charge transfer bands of NH ₄ Cl:Cu ²⁺ : influence of the phase transition
A. Fnidiki, J. P. Eymery and N. Junqua	549	Magnetic Fe ₆₀ Al ₄₀ thin films
S. O. Kasap and C. Juhasz	553	Transient photoconductivity probing of negative bulk space charge evolution in halogenated amorphous selenium films
E. Coquet, J. M. Crettez, A. Bestaoui, J. Pannetier and J. Bouillot	557	Thermal expansivity of α , γ and β -LiIO ₃ by neutron thermodiffractometry
A. L. Tronconi and O. A. C. Nunes	561	On the photostimulated amplification of magnons in magnetic semiconductors
H. Jex, F. Wittmann and M. Müllner	565	Interference between electronic and nuclear resonance scattering of Mössbauer y-quanta in sodium nitroprusside
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
AUGUST VOI	LUMI	E 63, NUMBER 7 1987
	C	ONTENTS .
General Papers		
G. Renaud, N. Motta, M. Belakhovsky, F. Lançon and L. Billard	569	Studies of lattice distortions in AuNi solid solutions by EXAFS and computer simulations
J. Gebhardt and G. Nimtz	573	Influence of sample geometry on the magnetic-field induced $metal-insulator$ transition in $n-HgCdTe$
H. D. Drew, V. J. Goldman and M. Shayegan	575	On the Hall resistivity of n-HgCdTe
J. L. Brédas, F. Wudl and A. J. Heeger	577	Polarons and bipolarons in doped polythiophene: a theoretical investigation
E. Bustarret and E. Morgado	581	Angular distortions and the exponential absorption edge of silicon-rich a-Si _x N _y H _z alloys
J. Y. Veuillen, R. Chevalier, J. Marcus and C. Schlenker	587	Mössbauer studies of the charge-density-wave state of ${}^{57}\text{Fe-}K_{0.30}\text{MoO}_3$
		Mössbauer studies of the charge-density-wave state of 57Fe-
C. Schlenker E. F. Schubert, J. E. Cunningham and	591	Mössbauer studies of the charge-density-wave state of 57 Fe- $K_{0.30}$ MoO $_3$ Electron-mobility enhancement and electron-concentration

- G. Van Tendeloo, H. W. Zandbergen and 603 The vacancy order - disorder transition in Ba₂YCu₃O₇₋₄ S. Amelinckx observed by means of electron diffraction and electron microscopy Y. Teraoka 607 The re-entrant surface order-disorder transition on the BCC(1 1 0) surface G. D. Chryssikos and E. I. Kamitsos 611 Synthesis and structural studies of novel cadmium germanate glasses G. D. Chryssikos, E. I. Kamitsos and 615 Electrical conduction in cadmium germanate glasses J. Swiatek R. Courths, B. Cord, H. Wern, H. Saalfeld 619 Dispersion of the oxygen-induced bands on Cu(1 1 0) — an angle-resolved UPS study of the system $p(2 \times 1)$ O/Cu(1 1 0) and S. Hüfner Riichiro Saito and Kazuro Murayama 625 A universal distribution function of relaxation in amorphous materials Y. Yokomichi and K. Morigaki 629 Electron – nuclear double resonance of dangling-bond centres associated with hydrogen incorporation in a-Si:H Superconductors and Superconductivity M. B. Maple, K. N. Yang, M. S. Torikachvili, 635 High temperature superconductivity in $(M_{1-x}M'_x)_2CuO_{4-\delta}$ and J. M. Ferreira, J. J. Neumeier, H. Zhou, related compounds (M = Y, La, Eu, Sm; M' = Ba, Sr)Y. Dalichaouch and B. W. Lee Y. H. Shi, H. S. Wang, Y. G. Wang, Y. Lu, 641 The superconductivity, structure and microstructure of Ba-Y-Sc-Cu oxides B. R. Zhao, Y. Y. Zhao and L. Li Yin Daole and Han Rushan 645 Possible electron – exciton (E – E interaction and high T_c superconductivity in bulk semimetals X. T. Xu, J. K. Liang, S. S. Xie, G. C. Che, 649 Crystal structure and superconductivity of Ba - Gd - Cu - O X. Y. Shao, Z. G. Duan and C. G. Cui system Y. Horie, T. Fukami and S. Mase 653 Ultrasonic studies of the high T_{c} superconductor $(La_{1-x}Sr_x)_2CuO_{4-\delta}$ H. P. Geserich, G. Scheiber and B. Renker 657 Plasma edge and optical phonon spectra of the hightemperature superconductor La_{1.85}Sr_{0.15}CuO₄ Shi Yinhuan, Zhao Bairu, Zhao Yuying, 661 The structure and morphology of high- T_c Ba – Y – Cu oxide Wang Yonggang, Wang Huishen, Lu Yong and superconductor Li Lin Hideo Aoki and Hiroshi Kamimura 665 Jahn-Teller-effect mediated superconductivity in oxides R. Kuentzler 671 Electronic and superconducting properties of the V-Os system Chen Chang-feng and Zhang Li-yuan 677 Evidence for unconventional s-wave superconductivity in the heavy-fermion compound UPt₃ General Papers (contd.) F. Varret and M. Bourrous
 - 683 Shape of an amorphous metallic ribbon during annealing: a kinetic study
- J. H. Kaiser, J. E. Inglesfield and G. C. Aers
- 689 Interpretation of photoemission from Na (1 1 0)
 - i Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications

Gen	eral	Pa	pers
	~		

- P. R. Watson and J. Mischenko III
- 693 The formation and identification of an epitaxial layer of TiC on a Ti single crystal

A. Halperin and S. Katz

697 The thermoluminescence (TSL) related with the [SiO₄/Na]⁰ center in quartz

Hiroshi Ishida

- 701 Surface plasmon frequency of anisotropic metals
- S. Mizuno, H. Hiramoto and K. Nakao
- 705 New mechanism for appearance of the three-dimensional Fermi surfaces in C₈K

Superconductors and Superconductivity

- J. C. Ho, P. H. Hor, R. L. Meng, C. W. Chu 711 Calorimetric and C. Y. Huang
- antiferromagnetism evidence of in GdBa2Cu3O6+6
- B. Jayaram, S. K. Agarwal, A. Gupta and A. V. Narlikar
- 713 High temperature superconductivity in Y-Ba-Cu-O and Y - Ba - Sr - Cu - O systems
- Y. Chang, M. Onellion, D. W. Niles, R. Joynt, 717 High-temperature superconductor Ba2YCu3O7-x: plasmon and
 - ultraviolet optical transition studies
- G. Margaritondo, N. G. Stoffel and J. M. Tarascon
- E. Zirngiebl, J. O. Willis, J. D. Thompson,
- C. Y. Huang, J. L. Smith, Z. Fisk, P. H. Hor,
- R. L. Meng, C. W. Chu and M. K. Wu
- 721 Magnetic and thermal measurements on high- T_c (La_{0.9}Ba_{0.1})₂CuO_{4-y}

Vladimir Z. Kresin

725 On the relation between the energy gap and the critical temperature

General Papers (contd.)

- M. A. Boky, I. K. Kudryavtsev and V. I. Yukalov
- Zhang Yuheng and Mao Xianglei
- Ph. Turek, J.-J. Andre and J. Simon
- Shu-Jeu Huang and Jiang-Tsu Yu
- S. van Smaalen, P. Bronsveld and
- J. L. de Boer
- N. H. March, B. V. Paranjape and
- R. Teshima
- C. K. Ong, L. S. Goh and A. K. Tan

- 731 Critical temperature in heterophase Hubbard model
- 737 The relation of localized f-electrons with temperature in heavy Fermion systems
- 741 Extreme spin exchange narrowing in a neutral phthalocyanine radical: the lithium phthalocyanine[1]
- 745 Ferroelastic transition of LiCsSO₄ studied by the EPR of ·NH;
- 751 Single crystal X-ray diffraction of the quasi crystal Al₆CuLi,
- 757 Plasmon loss function related to relaxation time in metals and alloys
- 761 Effects of isotropic variable bond energy in Monte Carlo simulation of crystal growth
 - i Vol. 63, Author Index 1-8

	C	ONTENTS
General Papers		
Y-C. Zhang, J-H. Liu, K. Dwight, P. H. Rieger and A. Wold	765	Study of the oxidation state of copper in La _{1.8} Sr _{.2} CuO ₄
J. Fousek, J. Kroupa and J. Chapelle	769	The incommensurate – commensurate phase transition in Rb ₂ ZnCl ₄ : confrontation of permittivity and birefringence data
J. L. Carrillo, G. Luna-Acosta, J. Arriaga and M. A. Rodríguez	773	Influence of recombination centers on the relaxation process of a 2D photoexcited hot electron plasma
V. Shubha and T. G. Ramesh	779	Critical point for the valence transition in Sm ₄ Bi ₃
N. Wada, Rasik Raythatha and Shigeru Minomura	783	Pressure effects on water-intercalated kaolinite
I. Földvári, R. Capelletti, A. Péter and F. Schmidt	787	The infrared absorption of OH in ZnWO ₄ and ZnWO ₄ :Fe single crystals
Yinsheng Tang, Bingshen Wang, Desheng Jiang, Weihua Zhuang and Jiben Liang	793	Photoreflectance spectroscopy of GaAs doping superlattices
Lu Kunquan and Wan Jun	797	Extended X-ray-absorption fine structure of mixed-coordination systems
J. D. Pollard, G. W. Bradberry and J. R. Sambles	803	A study of the thin metal film/fluid interface using surface plasmon-polaritons
M. Inoue, M. B. Inoue, T. Asaji and D. Nakamura	807	Novel electron spin resonance spectra of a tetrathiafulvalene salt of copper chloride, (TTF) ₂ CuCl ₂
K. Fukuda, M. Sato, S. Shamoto, M. Onoda and S. Hosoya	811	Magnetic properties of La ₂ CuO ₄ single crystals
Superconductors and Superconductivity Gang Xiao, F. H. Streitz, A. Gavrin and	817	Magnetic characteristics of superconducting RBa ₂ Cu ₃ O _{6+v} (R
C. L. Chien	017	= Nd, Sm, Eu, Gd, Dy, Ho, Er, Tm and Yb)
Y. Kuramoto and T. Watanabe	821	Electron pairing by cooperation of superexchange and polaron effects
A. Migliori, Ting Chen, B. Alavi and G. Grüner	827	Ultrasound anomaly at T _c in YBa ₂ Cu ₃ O _y
R. M. Macfarlane, Hal Rosen and H. Seki	831	Temperature dependence of the Raman spectrum of the high T_c superconductor $YBa_2Cu_3O_7$
K. Sreedhar, T. V. Ramakrishnan and C. N. R. Rao	835	High-temperature superconductivity in mixed-valent copper oxides: relation between T_c and the nominal Cu^{3+}/Cu^{2+} ratio
Ran Liu, R. Merlin, M. Cardona, Hj. Mattausch, W. Bauhofer, A. Simon, F. Garcia-Alvarado, E. Moran, M. Vallet, J. M. Gonzalez-Calbet and M. A. Alario	839	Raman scattering in the high T_c superconductors $MBa_2Cu_3O_{7-x}$

L. Genzel, A. Wittlin, J. Kuhl, Hj. Mattausch, 843 Far-infrared spectroscopy of the high T_c superconductor W. Bauhofer and A. Simon YBa₂Cu₃O₇₋₆

xiv 847 NMR of 89Y in normal and superconducting YBa2Cu3O9-6 J. T. Markert, T. W. Noh, S. E. Russek and R. M. Cotts 853 Observations of the ac Josephson effect in Y-Ba-Cu-O X. F. Meng, Y. D. Dai, H. M. Jiang, X. M. Ren, Y. Zhang, M. X. Yan, Y. C. Du, superconductors at 77 K J. C. Mao, X. W. Wu and G. J. Cui A. Fujimori, E. Takayama-Muromachi and 857 Electronic structure of superconducting Cu oxides Y. Uchida General Papers (contd.) A. I. D'Souza, M. G. Roe, P. E. Wigen and 863 Picosecond recombination of photo-excited carriers in sputtered a-Si:H R. Messier 867 Spin-lattice relaxation time of Yb3+ in YbCl3·6H2O S. K. Misra and U. Orhun Chang-Dae Kim, Tong-San Cho, Wha-Tek Kim 871 Temperature dependence of the energy gaps in CdGa₂Se₄ and CdGa₂Se₄:Co²⁺ single crystals and Hong-Lee Park i Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications 1987 **SEPTEMBER VOLUME 63, NUMBER 10** CONTENTS General Papers 873 Density of states of a two dimensional electron gas in a high T. T. J. M. Berendschot, H. A. J. M. Reinen and H. J. A. Bluyssen magnetic field studied with photoluminescence 877 Critical field Hc2, and critical current in YBa₂Cu₃O₇, up to 20 O. Laborde, J. L. Tholence, P. Lejay, A. Sulpice, R. Tournier, J. J. Capponi, tesla C. Michel and J. Provost Qingchao Gu, Wenwen Ye, Qingping Dai, 881 Thermally stimulated discharge current analysis of solid Zhiming Wang, Kang Sun and polystyrenesulfonic acid films William M. Risen, Jr. T. Wosinski and T. Figielski 885 On the metastability of the EL2 defect in plastically deformed GaAs V. Zlatić and D. Sokčević 889 Coherence effects for the two-impurity Anderson model E. Anastassakis and M. Cardona 893 Piezo-Raman studies of phonons in AlSb H. Ebert and H. Winter 899 On the Knight-shift of the noble metals Cu in Cu_xPd_{1-x} and Ag in Ag_xPd_{1-x}

Superconductors and Superconductivity

G. M. Phatak, A. M. Umarji, J. V. Yakhmi, L. C. Gupta, K. Gangadharan, R. M. Iyer and R. Vijayaraghavan

905 Superconductivity and localization in (La,Y)2-xSrxCuO4

Gy. Hutiray, A. Jánossy, G. Kriza, L. Mihály, S. Pekker, P. Ségransan, Z. Szőkefalvi-Nagy and E. Zsoldos

907 Electronic properties of La - Cu oxides

G. Mihály and P. Beauchêne	911	Sliding charge density waves without damping: possible Fröhlich superconductivity in blue bronze
H. Noel, P. Gougeon, J. Padiou, J. C. Levet, M. Potel, O. Laborde and P. Monceau	915	Anisotropy of the superconducting magnetic field $H_{\rm c2}$ of a single crystal of $TmBa_2Cu_3O_{7-d}$
General Papers (contd.)	221	
N. P. Gupta	921	Modified Morse potential function for heavy rare gas solids: I- argon
Rajiv Kaushik and K. Hariharan	925	Silver phosphovanadate vitreous electrolytes
T. Priem, B. Beuneu, C. H. de Novion, R. Caudron, F. Solal and A. N. Christensen	929	($\frac{1}{2}$ $\frac{1}{2}$) versus (1 $\frac{1}{2}$ 0) type ordering of nitrogen vacancies in TiN _x
A. Miniewicz and R. Jakubas	933	Pyroelectric properties of a ferroelectric single crystal [NH ₂ (CH ₃) ₂] ₃ Sb ₂ Cl ₉ (DMACA)
J. Jiménez, A. Alvárez, M. A. González, J. A. de Saja and J. Bonnafé	937	Photo-Hall study of the optically enhanced photocurrent in semi-insulating LEC GaAs
W. Förner	941	Analytical energy gradients for dynamical simulations of trans polyacetylene chains within the Pariser – Parr – Pople Hamiltonian
M. Takano and T. Shinjo	945	Magnetic ordering of triangular-cluster spins in $[Fe_3O(O_2CCH_3)_6(H_2O)_3Cl\cdot 6H_2O$
W. L. Liu, H. Kadomatsu, H. Fujiwara, T. Kamimori and M. Goto	947	Site occupancy of Fe atom and magnetic phases of $GdFe_{4+x}Al_{8-x}(0 \le x \le 2)$
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
SEPTEMBER VOI	LUMI	E 63, NUMBER 11 1987
	C	ONTENTS
General Papers		
Zhao-rong Huang, Guang-zhao Pan, Da-yu Yang and Xi-shen Chen	951	T ₂ -AlLiCu structure and its phase transition under heat treatment
S. Patil, R. Nagarajan, L. C. Gupta, R. Vijayaraghavan and B. D. Padalia	955	¹⁵¹ Eu-Mössbauer investigations in a new Eu-based mixed valent material EuIr ₂ Si ₂
Superconductors and Superconductivity		
Zhang Qi-rui, Qian Yi-tai, Chen Zu-yao, Guan Wei-yan, Zhao Yong, Zhang Hang, Cao Lie-zhao, Xia Jian-sheng, Pan Guo-qiang, Zhang Min-Jian, Sun Shi-fang, Yu Dao-qi, He Zheng-hui, Fang Min-hu and Zhang Tao		Zero resistance above 90K in superconducting oxides Er - Ba - Cu - O and Yb - Ba - Cu - O
Cao Ning, Duan Zhanguo, Shao Xiuyu, Zheng Jiaqi, Ran Qize, Liu Jinxiang, Chang Yinchuan, Hou Desen, Fan Hui, Chen Xichen and Guan Weiyan	965	Superconductivity and crystal structure in Dy _x Ba _{1-x} CuO _{3-y} compound system

G. Van Tendeloo, H. W. Zandbergen, T. Okabe and S. Amelinckx	969	Heavy atom disorder in the high T_c superconductor $Ba_2YCu_3O_{7-d}$ studied by means of electron microscopy and electron diffraction
G. Baskaran, Z. Zou and P. W. Anderson	973	The resonating valence bond state and high- T_c superconductivity — a mean field theory
T. J. Kistenmacher	977	Indicators for a low-temperature structural transition at ambient pressure in β -(BEDT – TTF) ₂ I ₃
V. Bayot, F. Delannay, C. Dewitte, J-P. Erauw, X. Gonze, J-P. Issi, A. Jonas, M. Kinany-Alaoui, M. Lambricht, J-P. Michenaud, J-P. Minet and L. Piraux	983	Strong electron – phonon coupling from thermal conductivity measurements in a Y $Ba_2Cu_3O_7$ -type superconducting compound
D. Shaltiel, J. Genossar, A. Grayevsky, Z. H. Kalman, B. Fisher and N. Kaplan	987	ESR in new high temperature superconductors
F. J. Kedves, S. Mészáros, K. Vad, G. Halász, B. Keszei and L. Mihály	991	Estimation of maximum electrical resistivity of high T_c superconducting ceramics by the Meissner effect
E. W. Fenton and G. C. Aers	993	Raising and lowering of phonon frequencies by spin density waves: high- T_c superconductivity
I-Wei Chen, S. J. Keating, C. Y. Keating, X. Wu, J. Xu, P. E. Reyes-Morel and T. Y. Tien	997	Structural behavior and superconductivity of YBa ₂ Cu ₃ O _x
A. K. Grover, S. K. Dhar, P. L. Paulose, V. Nagarajan, E. V. Sampathkumaran and R. Nagarajan	1003	Influence of chemical substituents on the superconductivity of $La_{1.8}Sr_{0.2}CuO_4$
 A. Bianconi, A. Congiu Castellano, M. De Santis, P. Rudolf, P. Lagarde, A. M. Flank and A. Marcelli 	1009	$L_{2,3}$ XANES of the high T_c superconductor $YBa_2Cu_3O_{\sim 7}$ with variable oxygen content
M. Cyrot	1015	Are high T_c superconductors doped Mott insulators?
T. Egami	1019	Local structural distortion and superconductivity in doped La_2CuO_4 and $YBa_2Cu_3O_7$
J. Zielinski and M. Pietruszka	1023	On the phonon induced hybrid pairing in two band superconductors
H. Monien, L. Tewordt and K. Scharnberg	1027	Ultrasound attenuation due to order parameter collective modes in impure anisotropic P-wave superconductors
General Papers (contd.)		
Wen-ming Liu and Min Cai	1035	Polariton in superlattice systems with the free charges localized at the interfaces
Wen-hai Yu, Da-zhi Wang, Bin Zhu and Tong-zheng Jin	1041	ESR spectra on montmorillonites
Wen-hai Yu, Da-zhi Wang, Bin Zhu and Gui-en Zhou	1043	Intercalation of Mg in V ₂ O ₅
S. Ghose, J. M. Hastings, L. M. Corliss, K. R. Rao, S. L. Chaplot and N. Choudhury	1045	Study of phonon dispersion relations in forsterite, Mg ₂ SiO ₄ by inelastic neutron scattering
T. Sahu	1051	Dielectric susceptibility of cubic SiC

M. Górska and J. R. Anderson	1055	Magnetization and susceptibility of Pb _{1-x} Mn _x Se
K. Nomura, T. Saito, K. Kume and H. Suematsu	1059	¹ H NMR in hydrogen chemisorbed K-GIC C ₈ KH _{2/3} : metallic electronic state at hydrogen site
Y. W. Park, Y. S. Lee, C. Park, L. W. Shacklette and R. H. Baughman	1063	Thermopower and conductivity of metallic polyaniline
J. C. Stoddart	1067	The theory of density functional gradient series
M. Bleher	1071	a.c. Conductivity for weakly pinned one-dimensional charge- density wave systems
N. H. March	1075	Size effects in vacancy formation energies in binary metallic alloys and mixtures and in the vacancy – solute interaction
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications
CERTEMBER		. (2 NUMBER 12
SEPTEMBER VC		E 63, NUMBER 12 1987 ONTENTS
General Papers		
R. V. Kasowski, W. Y. Hsu and F. Herman	1077	Electronic structure of pure and doped orthorhombic La ₂ CuO ₄
Rui-Qing Yang and Chien-Hua Tsai	1081	A note on the plasmon dispersion in semiconductor superlattices
Daxing Han, M. Yoshida and K. Morigaki	1083	Light-induced metastable defects in $a-Si:H$ as elucidated by optically detected magnetic resonance measurements at $2K$
A. Painelli and A. Girlando	1087	IR excitation spectra of low dimensional CT crystals: multidimensional linear response theory approach
J. Spector, J. Kaminski and V. Jaccarino	1093	Free electron laser - far infrared study of FeF2:Mn
E. Hanamura	1097	Thermal depolymerization of linear polymers
C. R. Leavens and G. C. Aers	1101	Extension to arbitrary barriers of the Büttiker-Landauer characteristic barrier interaction times
C. R. Leavens and G. C. Aers	1107	Generalization of Büttiker-Landauer characteristic barrier interaction times to an arbitrary point within a barrier
F. Kajzar, S. Etemad, G. L. Baker and J. Messier	1113	Frequency dependence of the large, electronic $\chi^{(3)}$ in polyacetylene
F. Pourarian, S. Y. Jiang, S. G. Sankar and W. E. Wallace	1119	Effect of Dy and Co substitutions on the spin-reorientation phenomena in Tm ₂ Fe ₁₄ B alloys
Superconductors and Superconductivity Cao Ning, Duan Zhanguo, Shao Xiuyu, Zheng Jiaqi, Ran Qize, Liu Jinxiang, Chang Yingchuan, Hou Desen, Fan Hui, Chen Xichen and Guan Weiyan	1125	The high- T_c superconductivity in $Sm_xBa_{1-x}CuO_{3-y}$ compound system

Chin Lin, Guo Lu, Zun-Xiao Liu, Yun-Xi Sun, 1129 Jian Lan, Guo-Zhong Li, Sun-Qi Feng, Chong-De Wei, Zi-Zhao Gan, Zhen-Yi Liu, Xiang-Miao Zheng and Bing-Xion Lin		Magnetic properties of the high- T_c superconductor $YBa_2Cu_3O_{9-x}$		
A. Bianconi, A. Congiu Castellano,M. De Santis, P. Delogu, A. Gargano andR. Giorgi	1135	Localization of Cu 3d levels in the high T_c superconductor $YBa_2Cu_3O_{\sim 7}$ by Cu2p X-ray photoelectron spectroscopy		
V. Z. Kresin and S. A. Wolf	1141	Effect of low dimensionality on the parameters of high T_c superconductors		
J. Ashkenazi, C. G. Kuper and R. Tyk	1145	Soft plasmon theory of the new high-temperature superconductors		
M. François, E. Walker, JL. Jorda, K. Yvon and P. Fischer	1149	Structure of the high-temperature superconductor Ba ₂ YCu ₃ O ₇ by X-ray and neutron powder diffraction		
General Papers (contd.)				
A. K. Bakhshi and J. Ladik	1157	Electronic structure of polyisonaphtothiophene: design of a new conjugated organic polymer		
Yoshihiko Kanemitsu and Shunji Imamura	1161	Measurement of photocarrier injection efficiencies at the interface in double layered organic photoconductors		
S. D. Gunapala, R. P. G. Karunasiri and D. D. Coon	1165	Virtual level field ionization spectroscopy		
K. Ishibashi, H. Kawai, K. Gamo, S. Namba, S. Ishida, K. Murase, Y. Aoyagi and M. Kawabe	1169	Sample size dependence of magnetoconductance fluctuations in narrow n^+ -GaAs wires		
T. Ichikawa	1173	Structural anomaly of liquid Sn layers adsorbed on Ge(1 1 1) surfaces		
A. Modinos and S. I. Easa	1179	Contrasting ion neutralisation spectra of Ni(1 1 1) and W(1 1 0) surfaces		
D. de Viry, J. P. Denis, N. Tercier and B. Blanzat	1183	Effect of pressure on trivalent chromium photoluminescence in fluoride garnet $Na_3In_2Li_3F_{12}$		
R. Laiho, T. Levola, R. M. Sardarly, K. R. Allakhverdiev, I. Sh. Sadikov and M. M. Tagiev	1189	Brillouin scattering study of phase transitions in TlInS ₂		
	i	Instructions for authors on the preparation of camera-ready manuscripts for Solid State Communications		

